

PHASE 1 REPORT REVIEW
FOR
INITIAL ASSESSMENT STUDY OF
DYESS AIR FORCE BASE
TEXAS

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R E M II

**PERFORMANCE OF REMEDIAL RESPONSE
ACTIVITIES AT UNCONTROLLED
HAZARDOUS WASTE SITES**

U.S. EPA CONTRACT NO. 68-01-6939

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REVIEW OF PHASE 1 INITIAL ASSESSMENT/RECRODS SEARCH STUDY OF DYESS AIR FORCE BASE, TEXAS

1.0 INTRODUCTION

This document presents the results of the Federal Facilities Review - Phase I. The purpose of this review phase is to evaluate the findings and recommendations made in the Phase 1 Initial Assessment/Records Search Study. This study is the first phase of the Department of Defense program - Installation Restoration Program (IRP). The primary focus of this phase is to identify and assess sites posing a potential threat to the public health or to the environment as a result of past hazardous substance storage, use and disposal practices on Department of Defense (DOD) property. This review has been prepared by Camp Dresser & McKee Inc. (CDM) in response to Contract No. 68-01-6939/194/TS1 which provides for technical assistance to Region VI of the U.S. Environmental Protection Agency (EPA) specifically regarding Dyess Air Force Base (AFB), Texas prepared by Engineering - Science (ES).

Our comments deal mainly with how data was gathered or the methodologies for future investigations. This report review is divided into two main sections, the first addresses our general comments, the second discusses specific comments and recommendations with the page number where the information we are addressing is referenced.

2.0 GENERAL COMMENTS

The results and recommendations of the ES study appear to be valid and reasonable. However, two general comments about this investigation are presented below. These comments are aimed at the overall investigation program and philosophy.

Existing active underground storage tank have capacities in excess of 1.5 million gallons for fuel and waste. Inactive tanks are in excess of this

volume. Several spills and leaks of liquids were noted in the report. Studies have estimated that more than 25 percent of the underground storage tanks in the nation are leaking or have leaked in the past; however, no recommendations were made for tank testing or subsurface investigations (with the exception of the railroad tank car) to determine the potential magnitude of this problem.

Limiting future investigation to only sites that score high on the HARM should be reevaluated. Some of the key factors used in the Phase I study are based on recollection, incomplete records, and sketchy analytical data. In addition to conducting field investigations at the proposed sites, an abbreviated field investigation should be conducted at other selected sites. The site selection should be based on field information with the intent of spot checking and screening for other contaminated areas. Soil gas testing, geophysics, and random soil sampling could quickly confirm the HARM.

3.0 SPECIFIC COMMENTS

Following are a list of itemized specific comments formulated by CDM based on the information contained in the Phase I Report. Therefore, an assessment of the data completion and evaluation is not completed. CDM assumes that the Phase I investigation was conducted in a proper manner; therefore, the majority of the comments address the conclusions and recommendations.

Page 1-5 In the methodology section, agencies and individuals contacted are listed. Did ES conduct a review of historical aerial photographs at the site to determine if additional disposal or affected areas exist? This is a good source of information on past operations.

Page 3-19 This figure is an "attempted correlation" of the available data Figure 3.7 to determine the shallow aquifer thickness. This unit was stated to be the most likely unit for migration of contaminant. The figure is misleading as it suggests thick sequences of

alluvium are restricted to the intersection of "D" Avenue and Second Street. Not enough data is available to "close" the contours in this area. Any attempt at contouring should be dashed as in Figure 3.8 (page 3-21). Furthermore, contouring is wrong as a 4.5 foot isopach point is between the 5 and 10 foot thickness contours.

Page 3-27 In the first paragraph of this page, comments are made that the surface water quality has been acceptable. Yet this is contradicted on Page 4-27 where elevated concentration of some parameters were observed. No indication of base water quality monitoring parameters are provided. Of possible concern in future surface water sampling programs are halogenated hydrocarbons that may have been disposed and/or spilled on the base.

Page 4-16 In the last paragraph from bottom of this page, a PCB spill and associated fire was noted in the DPDO in 1976 were discussed. The material was reported to be removed. Was subsequent testing done to verify the absence of PCB and dioxin?

Page 4-31 The first part of this page discusses the explosive ordinance disposal areas. The explosive ordinance disposal areas have been eliminated from further study as "burning minimized" residual materials. This should be confirmed. Previous investigations at U.S. Army facilities have indicated that explosive disposal or burning grounds leave toxic contaminants in the soil (Rosenblatt and Small). These contaminants are organic and inorganic products and various degradation products.

Chapter 6
General References are made in this chapter for further characterization of the hydrogeology of the sites. No hydrogeologic (physical) testing program is proposed. This information is useful in determining how fast contaminants will move at the site.

No plan was presented to sample the waste tank for sludge, water or floating phase waste. No testing plan to determine if the

tank is leaking is presented. The wastes reported stored in this tank would be amenable to soil-gas testing. This method around the vicinity of the tank could quickly confirm if leaks occurred in the past.

The hydrogeological interconnection between the shallow aquifer and deep aquifer is unknown. The depth to the deep aquifer is also unknown. An exploratory boring and monitoring well into the deep aquifer should be considered, especially if the shallow aquifer is contaminated.

The downgradient direction for both surface water and groundwater is easterly. Any contamination going off the base would be in this direction. It is important to locate at a minimum one well, one surface water sampling point, and a sediment sampling point to verify no contaminants are leaving Dyess AFB.

No surface water monitoring program has been proposed. Due to the high probability of direct contact between the surface water system and the groundwater aquifer in the alluvium, testing of surface water concurrently with groundwater is needed.

Page 6-6 Analysis of PCB in groundwater is proposed for the Evaporation
Table 6.2 Pit/Waste Storage Time and Landfill/POL Sludge Disposal Area No. 2 sites. There is no recommendation for testing of PCB in the sediment. This protocol appears to contradict the physical/chemical characteristics of PCB. Due to its high log octanol/water partition coefficient, PCB migration in groundwater is minimal. Most migration of PCB is through erosion and surface transport. Therefore, PCB concentrations in the soil should be analyzed.

EP Toxicity testing of sediment in the North Diversion Ditch is recommended. This recommendation is good; however, the testing program should include the pesticide fraction of the standard EP Toxicity test as pesticide handling has occurred at the site.

Although several of the parameters in this table are indicators of contamination (TOX and TOC), they reflect only gross contamination. Many of the suspected contaminants are suspected carcinogens at levels below the detection limits of the indicator parameters. Detailed analysis of selected groundwater and soil samples are recommended.

The proposed subsurface program is vague. No detailed discussion of field sampling or screening is proposed. How often will subsurface soil samples be collected? Will they be field screened by a photoionization or flame ionization detector? What packing, preserving, or chain of custody techniques are proposed?

Page 6-7 Several test borings at the two fire protection training areas for the collection of soil samples are specified. If contaminated, future monitoring wells may be recommended. We recommend installation of monitoring wells in these initial borings. This will reduce the time and expense for well installation. More importantly, it will provide additional data points for site-specific hydrogeology that is reported to be insufficient.

Chapter 6 In summary, Chapter 6.0 was brief in the description of the program for Phase II. Little information on field screening or
Summary basic protocol was presented. Locations and rationale for the monitoring wells is minimal to make a thorough critique on the program. Additionally, an expanded analytical program is recommended to ensure no CERCLA controlled wastes are omitted in the program.

REFERENCE

Rosenblatt, D.H, and Small, M.J., 1981, Preliminary Pollutant Limit Values for Alabama Army Ammunition Plant: Prepared by U.S. Army Medical Biogengineering Research and Development Laboratories, Technical Report 8105, 46p.